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ABSTRACT

Two groups of high risk students that deserve more attention from school reformists are: (1) disconnected youth who are alienated from basic American values, economic opportunities, and educational opportunities; and (2) semi-skilled students who are able to succeed in the basic programs assigned to them, but who cannot read, write, or solve problems with proficiency. Some of the young people who fall into these categories have hidden abilities, but often these abilities are used for illegal or marginal activities. Many of these students are not officially labeled as high risk by educational institutions. Schools can provide better support services and education to them by serving these youth in multiple ways. These include the following interventions: (1) providing more meaningful curriculum that focuses on higher order skills; (2) using instructional strategies that involve linking what the student already knows to what is to be learned; (3) devising tests that stress the use of higher order thinking; (4) integrating low-achieving students into the mainstream of the school; (5) using Chapter 1 resources for students who need them without regard to status and economic indicators; (6) providing more support services in the areas of physical and mental health; and (7) providing more meaningful school experiences so that students will be less inclined to drop out. Profiles of successful programs are presented. A list of 83 references is included. (VM)

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TOWARD REDEFINING CURRICULUM AND INSTRUCTION FOR STUDENTS AT RISK

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TOWARD REDEFINING CURRICULUM AND INSTRUCTION FOR STUDENTS AT RISK

The winds of change are finally here, heralding a new wave of reform for sustained, fundamental change in schools, especially for students at risk. Words like "school renewal," "radical change," "parental/community involvement," "business/school partnerships," "systemic change," and "restructuring" are indeed refreshing and heartening. There is even an increasing focus on program improvement with a strong emphasis on curriculum and instruction among the many initiatives and proposals in schools, state education agencies, and national groups.

Despite all these good recommendations for changes for students at risk, there are several concerns. First, there seems to be a lack of attention to the diverse needs of two types of students at risk: (1) disconnected youth who are fundamentally alienated from the basic American values and from economic and educational opportunities, and (2) semi-skilled students who are able to succeed in the basic skills programs assigned to them but who cannot read, write, or solve problems with proficiency and therefore can only live on the edges of mainstream society.

Second, given these problems, what can be done to address them? I believe that the concept of schooling needs to be expanded to include both direct instruction and support services in areas traditionally reserved for families and other social agencies. This approach also calls for the coordinated involvement of parents, senior citizens, civic workers, and the business community in schools as learners, teachers, role models, and providers of support services. Thus, in this conceptualization, schools serve multiple functions for the students and the community as

learning centers for health care, child care and parent training, problem solving, and decision making in addition to the instruction in traditional disciplines.

Third, to what extent is the approach outlined here consistent with existing reform agendas? There is definitely support for most of the ideas in this extended-schooling approach in many recent reform initiatives and designs for future schools, but there are important gaps and limitations in the reform literature, especially regarding changes in curriculum and instruction.

Fourth, what are implications of the reform movement for curriculum and instruction? Specifically, it is argued that existing definitions of the role of students, teachers, instructional leaders, teacher educators, and curriculum and instruction constitute a poor foundation to support the reform agendas; new definitions are suggested to carry forward the intent of this wave of reform.

Students at Risk Overlooked by Recent Reforms

Who are the students, or would-be students, among the severly disconnected and the ranks of the semi-skilled? What are their chances of leading productive lives within the context of mainstream America? How do the needs of these students relate to the new reform movement? These questions guide the organization of this section.

Severely Disconnected Youth

"The homeboys call him Frog.... He rakes in $200 a week selling crack, known as 'rock' in East Los Angeles. He proudly advertises his fledgeling membership in an ultra-violent street gang: the Crips. And he brags that he used his drug money to rent a Nissan Z on weekends. He has

not yet learned how to use a stick shift, however, and at 4 ft. 10 in. he has trouble seeing over the dashboard. Frog is 13 years old." (Lamar, 1988).

Frog is an example of the growing numbers of severly disconnected youth whose creative energies and entrepreneurial talents are adapted to survive in the underclass culture of drugs, street gangs, violence, crime, and prostitution (see also Newsweek, 1988). While most children are at school, Frog and his peers are entrenched in the cross-fire of large-scale political and corporate structures associated with the sale of drugs and arms nationally and internationally. Indeed, the powerful, rapid-fire Uzis and other weapons available to these youth seem far more frightening than the sawed-off shotguns and fire bombs of the Weathermen and race rioters of earlier decades. In a word, although these disconnected youth may be highly skilled in the jobs that define their world, they are unskilled in terms of the skills and knowledge needed to compete in mainstream occupations, and they are dangerous to s ety and ultimately to themselves. Moreover, their numbers are increasing; Newsweek (1988) estimates that the population of this underclass, which is largely minority, is about 2.5 million, roughly three times what it was in the 1970s.

Nor are all violent youth found emerging from poverty in our cities. Drug use, drug dealing, alcoholism, violence, crime, and abuses arising from these activities have their counterparts among the very wealthy in cities and suburbs. Laurie Dann's recent rampage of killing children in Winnetka, Illinois, is a painful example. She was totally alienated from her own family, her former husband, and his family. She barely

graduated from high school and was essentially unskilled and working as a babysitter (Papajohn & Kaplan, 1988). Although the social and economic characteristics among these youth may be very different from those in inner cities, they, too, are disconnected from their families, schools, religion, and other conventional social institutions. Thus, although these youth are not disadvantaged, we must consider their alienation as a parallel problem.

The needs of these disconnected youth are tremendous. Some of them need nourishing food, shelter, clothing, and medical services, especially if they are homeless, neglected, or abused. Many lack access to adequate and caring support services that would help them cope with poverty, personal distress and disaffection, family problems, peer pressure, and the dangers of the street. They need a curriculum that teaches them how to solve the problems they face and reconnects them to values for critical literacy and a level of meaningful participation in educational, political, and social processes. They need opportunities to be reconnected to jobs that have meaning--jobs that will provide them with hope for the future and chances for social mobility now cut off from them. But most important, they need access to people who care about them: people who have a stake in their future, people who believe they can learn to be successful citizens, workers, and members of the community.

The causes of their alienation and disconnection are complex and deeply rooted in the social, economic, and political fabric of the broader society and certainly extends far beyond the scope of educational institutions. Educators clearly cannot deal with all of the problems; we must consider who is responsible for the education of these youth and what <u>can be done</u> by schools to provide better support services and education.

However, since these youth are so disconnected, I fear that their educational needs may fall through the cracks of the reform movement. Because these youth have committed crimes, some of them are in penal institutions that generally will not provide effective support services or education other than some basic skills and rudimentary training in a few trades. Consequently, when they leave, they may at best be able to read and write with minimal competence, but they are still disconnected from the mainstream of economic and political opportunities--not to mention the further disconnection caused by the crime and corruption that occurs inside penal institutions among the staff and the penal population. Because these youth are dangerous, many schools assume that they do not belong in school and plainly do not want them. And because they are largely dropouts, they fall outside most of the legislation intended for schools, except for dropout prevention programs, alternative schools, and re-entry centers, which may be useful but are not sufficient.

More fundamental changes are needed to reclaim and harness into more productive channels the energy and creative talent that flow from these angry youth in the form of violent actions against society and ultimately against themselves.

Semi-Skilled Students

Harlow is a high school student at an inner city high school that is rapidly improving its curriculum. However, when I met Harlow, he was essentially what I would label a semi-skilled student. Although he was clearly bright and made good grades by his school's standards, he had little idea how to read or write with understanding, to study complex expository materials, or to solve academic problems beyond those in the

book. His strategy for reading and studying was to read the questions at the back of the book and "scam" the text for the answers, a strategy that is typical of many learners (Anderson & Smith, 1987). He had no idea how the parts of a chapter were related, even though he could decode the words quite well and answer the questions with some accuracy. As of the second half of his sophomore year, he had never studied a whole chapter because he had never had a test covering more than a few pages or activities; nor was he ever required to integrate information across several chapters or units.

In contrast to Harlow, Marla attended a good high school in an all-white suburb that ranks high in number of students graduating and attending college. Although she was very bright and showed considerable potential in art and creative writing, she was tracked into lower level classes because she was weak in mathematics and was often an impulsive learner. She was one of those students who would work hard and excel at tasks she found interesting and relevant to her life but was very undisciplined in her study habits if the task had little immediate meaning. She also had a very low self-image and harbored a deep-seated hatred for school, stemming in part from the humiliation she felt at being in lower track courses, in part from the watered-down curriculum she was offered, and in part from the social structure linked to the tracking system. After years of "fighting the system," Marla finally graduated but showed her ultimate bitterness by not attending her own graduation. Now she is struggling with the hardship of living on poor wages and coping with the realities of her limited occupational options. The irony is that if she had failed a few courses, she would have been offered a range of special services and instruction that might have changed the pattern of low achievement. On the other hand,

when such services are offered in the context of tracking, there is great stigma associated with using them, so the services might have been just one more thing for her to fight.

There are literally millions of students like Marla and Harlow who have good, even excellent, capabilities and potential but may or may not finish high school and probably will not be able to compete for challenging jobs with reasonable earnings. Without intervention, these students at best may compete for the rapidly decreasing semi-skilled jobs that require basic skills; but they could not compete well for the range of service jobs and information-processing occupations that require problem solving, skilled literacy, and knowledge of technology. At worst, they may fall into the ranks of the underclass. With appropriate intervention, they may approximate the patterns of achievement of more advantaged students (Levin, 1976; Rohwer, 1971; Neisser, 1986).

While I believe other types of students at risk would benefit from fundamental changes brought about by reform, I chose this focus on semi-skilled students for the following reasons. First, I believe that they might escape being defined as students at risk: Harlow, because he makes good grades in a school with relatively low standards; and Marla because by tracking her into low-level courses, the school feels that it is serving her needs. Second, I believe there is something dreadfully wrong with a definition of basic skills that does not prepare students for the critical literacy and problem-solving skills needed for tomorrow's jobs. Thus, I would seriously question the success of school improvement efforts that move students at risk from the 30th percentile to the 40th, or some other low level of achievement that leaves students lacking in proficiencies for

the twentieth century (Levine, in press). Third, I seriously question the social ethics and value of segregating low-achieving students into homogeneous classrooms when we know how devasting this can be to their self-concept and to their chances for subsequent education and employment (Jones, in press; Oakes, 1985).

In sum, it is argued that the reform movement might overlook students at both extremes of the academic parameters that define students at risk: disaffected youth who have failed school and dropped out, and semi-skilled students who are marginally successful in terms of acquiring basic skills but who are not equipped to think effectively and solve problems in a society oriented to information processing and "high-tech" occupations. Both types of students exist in cities and suburbs, but special attention is paid to the increasing numbers of the disconnected in inner cities who are more likely to suffer from poverty and disconnection from the full range of choices and responsibilities in our society, and especially from traditional family and school connections. Ironically, disconnected students may be overlooked by the reform movement because their problems are so great, whereas semi-skilled students may be overlooked because they are successful in the minimal competencies required by low-level tracks and reform initiatives not aimed at cognitive development. It is argued that we must attend to the needs of these students because the costs to themselves and society of not doing so are too great.

Schools as Having Multiple Functions

Defining the Problem

What is done about students at risk depends in part on how the problems are defined. For students at risk who are disconnected, the

first problem is not merely, or even primarily, lack of education. Rather, it is the total isolation of their lives from the traditional connections to prescribed culture: stable family systems, religion, schools, gainful and rewarding employment, social and health care agencies, and legitimate political processes. It seems highly unlikely that any effort to educate these youth can succeed without first dealing with this isolation and alienation from society and the poor physical and mental health associated with poverty, drugs, and sexuality that is both abusive and uninformed.

At the same time, while it has been useful to call attention to two types of students at risk who may be overlooked in the reform movement, the issues that apply to these students may apply in varying degrees to all students at risk. That is, we cannot readily distinguish who is and is not disaffected. Certainly, the violent youth in the adolescent underclass and in wealthier strata of society are disconnected in the extreme, but all students at risk are disconnected in some degree. In fact, the very meaning of the term "at risk" connotatively refers to the risk of being disconnected from mainstream social and economic opportunities and political processes. Therefore, we should not try to differentiate among categories of students to provide different types of services and education based on poverty or family status. Intact families may be as dysfunctional as families with a single head of household and vice versa; single-parent families may be highly functional.

Reconnecting and Educating Students at Risk

Instead, the fundamental organizing principle for defining support services and educational goals for students at risk academically should be on the basis of their needs. And the goals of schooling for students at

risk should be threefold: (1) to reconnect them to the opportunities and responsibilities in America from which they have become isolated; (2) to provide the skills and knowledge needed to acquire, use, and produce information meaningfully and critically, as well as to solve real problems related to their lives and society's goals; and (3) to teach students to become independent learners as well as learners in collaborative contexts.

Defining the goals of schooling for students at risk in terms of reconnecting and educating as separate but related functions has important implications for policies and practices relating to curriculum and instruction. It is not within the scope of this paper to consider all of these, but the following provisons are outstanding:

-- regarding the curriculum: more meaningful learning in basic skills and the content areas focused on higher order objectives, critical and creative thinking, learning how to learn, problem solving, and conceptual change; greater access to well-written literature, textbooks, and instructional materials; new guidelines and curricula for areas such as parent effectiveness training for teenage parents, misconceptions in math and science, comprehension monitoring, collaborative learning and problem solving, decision making, intergroup relations and governance, health care, a repertoire of cognitive strategies and organizational patterns, cognitive approaches to learning a second language (e.g., Chamot & O'Malley, 1987).

-- regarding instruction: more instructional strategies formulated to involve students in the learning process, to link new information to prior knowledge, to represent and organize new information in oral language and in prose, to transfer and apply what is learned to new areas, to use what is learned to solve problems.

-- regarding assessment: new tests for higher order thinking, use of specific thinking/learning strategies and organizational patterns, and potential to learn. Many of the educational problems that exist today, especially for students at risk, are the result of using standardized tests focusing on multiple choice formats and the recall of isolated facts.

-- regarding building and classroom organization: more effort to integrate low-achieving students physically within the life of school among students with differing talents and capabilities, rather than isolating them in tracks, rigid ability groups, and pullout programs. Strategies for doing this might range from grouping for different purposes (e.g., Alvermann, in press), cooperative learning in heterogeneous classrooms, flexible scheduling, group work involving intensive participation and interaction (Cohen, 1986), peer tutoring and cross-age tutoring, smaller class sizes, and the use of instructional strategies such as brainstorming and discussion designed to share information.

-- regarding Chapter 1 services: more use of funds for schoolwide instructional services and programs available to all students who need them regardless of their family status, race, ethnic origin, or socio-economic class; less use of pullout programs focused on basic skills and recall of isolated facts; better coordination and accountability for students in pullout programs.

-- regarding other support services: better access to more support services to address issues of physical and mental health, poverty, family living, employment, and housing. These support services could be provided by better coordination of available services from the city and state or by inclusion of such services with school campuses. In either case, they

should become part of the curriculum and instruction options for students at risk.

-- regarding dropping out: more emphasis on prevention in terms of providing meaningful school experiences and more opportunities for "second chances" within schools. As it stands now, second-chance education is often left to interventions in private schools or within the school system as re-entry centers and alternative schools, somehow disconnected from the heart of schooling. While such measures may be highly functional in the absence of other options, one could conceptualize schools offering such a variety of services and programs so that the education of dropouts and adult illiterates was not isolated from the mainstream of school life.

Existing Reform Agendas: Barriers and Designs for Change

Barriers to Excellence

There is much in the new wave of reform agendas to support the vision of schooling sketched above. One of the earliest reform agendas focusing directly on students at risk comes from the National Coalition of Advocates for Students (1985), which identifies major causes for alienation and poor performance. According to this report, barriers to excellence begin with the various forms of discrimination that constitute differential treatment in social and legal matters and differential access to educational, economic, and political opportunities. Barriers in school include: inflexibility of school structure, abuses of tracking and ability grouping, misuses of testing, narrowness of curriculum and teaching practices, limits of vocational education, lack of support services for youth, lack of early childhood programs, and lack of democratic governance. Additionally, Parnell argues that the academic and vocational desert of American

education is the high school general-education program because learning is not focused as it is in college-bound programs and vocational programs.

Designs and Guidelines for Sustained, Fundamental Change

At the time that the Student Advocacy Report was written in 1985, there were virtually no reform agendas addressed to those barriers. Now there is increasing recognition that the entire educational system is "broken," not to be repaired in piecemeal efforts and quick fixes. Now there is a rich abundance of important reform models and guidelines that address these barriers directly, calling for sustained fundamental changes in schools. Some of these are national reports such as the Carnegie Foundation Special Report (1988) which states: "America must confront, with urgency, the crisis in urban schools. Bold aggressive action is needed now to avoid leaving a huge and growing segment of the nation's youth civically unprepared and economically unempowered. This nation must see the urban crisis for what it is: a major failure of social policy, a piecemeal approach to a problem that requires a unified response." (p xv). Based on this analysis, the report defines four priorities that address the problems of urban schools.

--to affirm that every student can succeed

--to build an effective governance arrangement

--to introduce at every school a comprehensive program of renewal

--to create a network of support beyond the school

Within this framework, the report discusses the importance of a core curriculum that has both coherence and connections to real-life experiences, and the opportunity for flexible arrangements, including the concept of a Transition School that would allow students more time and

options for work and study outside the walls of the school. Indeed, it is encouraging to learn about the number of plans offering flexible time and work options, often educating selected youth on community college campuses, as well as involving parents and businesses directly in schools. Examples of plans described in this report include the Middle College High School in Queens in which high school students are educated on a college campus; Cincinnati's Occupational Work Adjustment Program, which allows students individualized instruction, counseling, and income from work coordinated by the school; the national Cities-in-Schools project, which provides good counseling and help with jobs, health, and family problems.

Additionally, there are some fascinating proposals and plans for specific schools and school systems that call for sustained, fundamental changes (See Note 1). One of the most promising programs is provided by the Corporate/Community Schools of America (1988), which, among other things, closely coordinates health, social, and family services offered by the city to meet the needs of the students without going through as many layers of bureaucracy and delay as is normally the case. Additionally, educational, business, community and union leaders work together to promote change. This plan, while entirely supported by business contributions, is devised to function on the budget normally allotted to public schools and is devoted to working with urban schools to incorporate its principles.

The Ohio Reading Recovery Program also has achieved dramatic successes and is being adopted in several states (see the National Diffusion Network Newsletter, 1988; Pinnell, et al., 1987). This program targets the poorest readers in the class for one-to-one planned lessons for 30 minutes each day. Each lesson includes reading many "little" books and compositions.

Reading and writing instruction is approached holistically and is devised to teach children strategies for decoding and comprehension monitoring. Each child participates in the program until he or she has developed strategies for independent learning. Then the strategy is "discontinued," and another child enters the program.

Finally, I would like to mention the recent movement for accelerated learning promoted by Levin (1987a; 1987b) and others (e.g., Cooper, in press; Levine, in press; Slavin, 1987). For example, Calfee's proposal for Schools for the Year 2000 (1988) focuses directly on effective curriculum and instruction and many of the values espoused in the conceptualization of schooling for students at risk outlined above. Calfee and his colleagues envision a major national network of schools to implement a cohesive model of critical literacy, an interactive learning environment for the classroom, the school as the center of continuing enquiry, and stronger linkages among school, home, and community resources.

In general, there seem to be common themes connecting many of the new reforms. They typically call for sustained and fundamental changes to reconnect students to the world of work and the broader community and to provide more meaningful education. Most of them call for more flexible scheduling, individualized instruction, and low student-teacher ratios, especially for the rich array of highly innovative dropout programs and dropout prevention programs. There is also a very strong theme of decentralizing schools to reduce the size of large urban districts and to provide school-based management with parental involvement and sometimes parental or community control over school budgets and hiring of principals. Thus, in important ways, these reform initiatives are asking

schools to become micro-communities in which the school serves as the hub of the community, with many of the services typically provided for by families and other agencies are provided through schools or physically within them. At the very least, these proposals no longer see the purpose of schools for students at risk as merely providing an education. Instead, they define schools in terms of multiple functions to educate and reconnect students to the mainstream of society.

Legislative and Financial Support

Interestingly, there is massive national and state reform legislation supporting the reform focus on improving instructional programs for students at risk and incorporating many of the initiatives discussed above. New Chapter 1 legislation, for example, states that schools which do not show substantial progress in helping students at risk must work with local education agencies (LEAs) to modify their instructional programs. If this locally developed plan does not yield significant progress, then the LEA must work with the state education agency (SEA), the school, and the parents to form a joint plan of action to improve the instructional program. Additionally, Technical Assistance Centers for Chapter 1, initially authorized for assistance in program evaluation, are now authorized to serve as change agents. Specifically, they are to assist schools with program improvement, including identifying alternative curricula and effective instructional strategies--activities formerly forbidden by law! And there is provision for staff development as well as a new Specialty Option on Curriculum and Instruction. (For a good, concise description comparing the legislation contained in House Rule 5 to the old law, see the Special Supplement for Education Daily, June, 1988).

This legislation is supported strongly by the Council of Chief State School Officers' recent policy titled, "Assuring Educational Success for Students at Risk," which was unanimously endorsed by the Council. This policy specifies that state law should provide the supporting health, social welfare, employment, housing, safety, transportation, and other human services which, together with the educational programs, are reasonably calculated to enable all persons to graduate from high schools. This statement was further backed by a paper expressing the personal commitment of individual Chiefs for radical reform in elementary and secondary schools. Specifically, they referred to possible "state takeovers" of school districts which are financially "distressed;" support for student transfers from low achieving schools or districts to "successful" locations elsewhere; and widespread utilization of knowledge from effective schools and effective teaching research as well as reduction in the concentration of low achieving students at low-achieving schools (in Levine, in press, p. 65; see also Council of Chief State School Officers, 1987).

Along with this support from national and state legislation for reform, there are significant contributions from private foundations and the business community. The Casey Foundation, for example, recently gave $10 million grants to six schools that would provide some matching funds to design schools of the future, and there are numerous other examples in the Carnegie Foundation Special Report (1988). Moreover, articles abound in business journals such as the Harvard Business Review and in national newspaper articles describing the recent involvement of business in supporting education.

Limitations of Existing Initiatives

These reports demonstrate courage, reflection, and insight and will undoubtedly decrease dropout rates while increasing attendance, academic achievement, and college attendance for many at risk. However, they have some limitations, sometimes for what they say, and sometimes for what they omit. A major concern is the focus on basic skills, rather than on developing critical literacy, numeracy oriented to problem solving, creative thinking, and conceptual change. Similarly, there seems to be little realization of the dysfunctions of instructional practices associated with a curriculum of basic skills in regular classrooms and pullout programs such as "mentioning," boring drill and practice, questions focused on isolated recall of facts, fragmented learning and instruction, dependence on unsupervised seatwork, and exercises that have no meaning (Allington, in press; Ascher, 1987; Peterson, 1987). Equally important, this emphasis on basic skills seems to be based largely on assumptions from effective schools and effective teaching research that need to be "revisited" in the light of recent research on expert teaching and cognitive science (see below).

Another set of problems in these proposals relates to the role of building and classroom organization. On the one hand, there is some effort in a few reports to see tracking as a barrier to achievement. There is also a widespread emphasis on the need for flexible scheduling, particularly in high schools. On the other hand, many reports do not refer to the problems of segregation and poor-quality instruction that arise from tracking, ability grouping, and pullout programs for low-achieving students (e.g., Peterson, 1987). It is imperative that the reform movement relate

to the increasing body of literature showing that such arrangements typically produce differential access to educational opportunities in terms of instructional materials and instructional strategies (Allington, in press; Ascher, 1987; Good & Marshall, 1984; Peterson, 1987). That is, high-ability students consistently receive more active instruction, more comprehension instruction, and more opportunities for comprehension monitoring. In contrast, teachers of low-achieving students tend to assume that they cannot attain higher order objectives and consequently provide mainly drill and practice, decoding, and algorithms for rote memorization (see Jones, in press; National Coalition for Advocates for Students, 1985; National Education Association, 1987; Oakes, 1985; Salmons, 1988; Slavin, 1986). These problems are compounded by the lack of coordination between Chapter 1 instruction and that of the regular classroom, leading to fragmentation of learning and instruction and lack of accountability for student programs (Allington, in press; Ascher, 1987; Gartner & Lipsky, 1987; Peterson, 1987).

While it is exciting to hear about reforms for school-based management, they could be implemented in ways that are just as disastrous as centralized structures for governance and administration. Specifically, there is a high potential that the parents and community members who sit on advisory councils will not be informed about curriculum and instruction, and will have heavily vested interests in basic skills, drill and practice, and the recall of isolated facts. Some may even believe that efforts to teach thinking is a form of "brainwashing." More important, some degree of centralization in the area of curriculum and instruction at the elementary grades may be needed to assure continuity of instruction for the highly

mobile students in urban schools. It is interesting to note, for example, that while most school systems are moving toward school-based management, Detroit is moving toward more centralization because of its recent problems with the lack of accountability in decentralized systems.

Additionally, there seems to be little reference to the need for different kinds of tests. It is axiomatic that tests drive instruction, and many of the recommended reforms will require massive changes in testing to assess higher order thinking as well as students' learning potential and thinking/learning strategies. In assessing learning potential, it is not students' past experience that counts; rather, it is their ability to respond to instruction. One measure of this is the Learning Potential and Assessment Device developed by Feuerstein and his colleagues (1985). Learning strategy tests assess the students' knowledge and use of specific learning strategies (see the Learning and Study Skills Inventory developed by Weinstein and her colleagues, Weinstein & Underwood, 1985). However, much more research needs to be done to develop a diversity of measures for all grade levels and for assessment of conceptual understanding in the content areas. We also need more training for teachers and publishers to develop tests for use in the classroom focusing on higher order thinking (see Arter, 1987; Stiggins, Rubel, & Quellmalz, 1986).

Finally, there are concerns about staffing expressed recently at a planning meeting on restructuring schools in Chicago sponsored by the North Central Regional Educational Laboratory. Both teachers and administrators were worried about the recruitment of minority teachers, evidence of increasing preferences for white teachers not to teach minority students, the commitment and quality of instruction among the number of teachers and

administrators nearing retirement, and the lack of understanding generally of the characteristics of different types of students at risk.

To summarize, the reform movement has identified numerous barriers to excellence and equity and proposed a rich array of designs for tomorrow's schools, focusing on governance structures, scheduling, parent/community relations, more meaningful curriculum, and more effective instructional strategies. Moreover, there is substantial support in national, state, and local legislation for new reforms as well as increasing support in the business community.

Concerns about the reform movement center on widespread assumptions about curriculum and instruction. Specifically, it was argued that basic skills instruction, pullout programs, ability grouping, and tracking are barriers to effective instruction for low-achieving students. Moreover, in the light of recent research, it is vital to reevaluate models of effective schools and effective teaching, as well as who teaches thinking and what is taught.

Dimensions of Change

Support for reforms for students at risk marks a major turning point for American education. But we must take care that this new wave of reform focuses directly on changes in curriculum and instruction for low-achieving students. We must also build the foundation for these changes on valid models of effective learning, teaching, and instructional leadership. In the final analysis, schools and their governance structures are essentially shells or frameworks, within which curriculum and instruction, the heart of schooling, take place. As our notion of schooling is being remodeled, so, too, must we remodel our concepts of learning, teaching, and leadership

that will carry out the ultimate intent of the reforms for these students. We must keep in mind constantly the goals of the reform movement, namely, reconnection to the larger society, cognitive development, and empowerment to live and work in society peacefully and collaboratively.

Vision of Learning

Traditional Models The current emphasis on teaching isolated basic skills through extended periods of drill and practice can be traced back to behaviorism. Specifically, behaviorists argued that learning occurred through repeated associations between a stimulus and a response. Research indicated that learning was more effective with practice and feedback that were distributed or spaced over different periods of time. Additionally, it was assumed that the individual's cognitive capacity to process information was limited to approximately seven discrete items; therefore, it was assumed that instruction should be presented in small chunks and steps. Thus, the learner was conceptualized as a passive person on whom information was essentially imposed by repeated associations. In this view, it was assumed that all the learner had to do was decode the words (that somehow the meaning was "in" the words) and be exposed to various associations between stimuli and their appropriate responses.

Recent Models of Learning It would be impossible to review here the deluge of research emerging from cognitive psychology and research on specific subjects that challenges the behaviorist point of view. This research, which began in the early 1970s, has essentially stood behaviorism "on its head" by emphasizing the importance of what happens in the brain between the stimulus and the response. Today's vision of learning conceptualizes the model learner as working actively to construct meaning,

to plan strategically, to monitor comprehension and problem solving, to integrate new information with prior knowledge, and to apply and use what is learned. In this vision, comprehension is defined as an interaction among the reader, the text, and the context, and memory is conceptualized as a network of knowledge structures that relate information in many dimensions or attributes. Learning occurs as the learner calls upon a repertoire of cognitive and metacognitive strategies to represent and integrate the new information and to link it to these networks, (Note 2).

Cognitive psychologists recognize that there are differences in aptitude among high- and low-achieving students. However, they consistently support teaching students at risk a repertoire of cognitive and metacognitive strategies such as problem solving, representation, elaboration, summarizing, clarifying, using graphic organizers and organizational patterns, comprehension monitoring, self-questioning, verbal self-instruction, and self-regulation, hypothesis generation, and study skills (Jones, Tinzmann, Friedman, & Walker, 1987; Palincsar & Brown, 1985; Peterson, 1987; Schoenfeld, 1988; Singer & Donlan, 1982; Weinstein & Mayer, 1986). In fact, they argue that training in generalizable cognitive strategies has more powerful and long-lasting effects than teaching discrete cognitive skills (Bransford, Sherwood, Vye, & Rieser, 1986; Corno & Snow, 1986). This is particularly true for students at risk. However, there is substantial evidence in this same literature that students at risk may <u>not</u> apply these strategies spontaneously without sustained, explicit strategy instruction.

An example of such a strategy is one that my colleagues and I now refer to as S2ROS: (1) <u>Survey</u> the text looking for specific types of text

structures; (2) Represent the structure (organizational pattern) in a mental picture or graphic; (3) Read to refine or modify the mental representation, clarify what is unclear, and monitor comprehension; (4) Outline the text using graphic organizers that reflect the text structure; and (5) Summarize the outline, using the graphic organizer to structure the summary (see Jones, Pierce, & Hunter, in press, for description of the procedures). In this strategy, the learner uses various graphic outlines to help represent, outline, and summarize the information. Organizational patterns used in this strategy include: theme and supporting statements; compare and contrast; sequence of events, including stages in a life cycle; and problem and solution (Jones, Tinzmann, Friedman, & Walker, 1987; see also Jones, Pierce, & Hunter, in press). What follows is an example of a model learner applying this strategy to a history text:

> He reads the section title: Why Did the English Come to the New World?... "Hmmm, there must be reasons why the Englishmen came to the new world." His finger moves to first subtitle, which he reads, America Offered the Chance to Make a Better Living. "There's a reason why they came to the new world." His finger then moves to second subtitle: America Offers Freedom of Worship. "That's also a reason why they came to the new world." His finger moves to third subtitle. He looks up to reflect. "So from here I can make a spider map." He draws an imaginary spider map with a central node on the pages of his textbook. "Why did the Englishmen come to the new world? goes in the middle, the central node of the map. Freedom of worship, better living, and possibility of sharing in government go on the other sides." He draws three imaginary legs of the spider map.
>
> He looks at the questions at the end of the section... (2) What were some of the important reasons that brought English settlers to the new world? "Well, I just read three or four reasons that brought English settlers to the new world." (3) What was a trading company? "Well, I don't know what a trading company was; I have to read to find out that answer." (4) How were the trading companies....? "Hmmm, trading companies again...the trading companies must be important because they ask two questions about them."
>
> He turns to the second section of the chapter, placing his finger on the section title, How Did Virginia Become the First Successful English Colony? "How...when I see the word 'how' I think of events." His finger moves to the first subtitle, Sir Walter Raleigh's Attempt to Start a Colony Fails. "That's an event." He pauses, with a brief

> glance back to the title, then to the subtitle. "But it (the subtitle) said it (the colony) failed, but it (the title) said it became the first successful English colony. That's strange." He begins to skim the paragraph below the subtitle. "I see North Carolina. He (Walter Raleigh) must have failed in North Carolina before he became successful in Virginia." His finger moves to the second subtitle, Englishmen Settle in Jamestown... "That's an event on how Virginia become the first successful English colony. Jamestown Settlers Encountered Difficulties. He looks up to reflect. "So, they must have had problems before the colony became successful. Over here there's a map." He scans the map briefly with his finger, saying, "Pennsylvania. Here's Virginia and Jamestown. Jamestown is a city of Virginia. Here's North Carolina, the state under Virginia." He pauses a moment, then places his finger on the third subtitle for this section...

I have focused on this example for two reasons: (1) it demonstrates the complexity of skilled learning and the learner's coordination of cognitive and metacognitive strategies, and (2) the student who demonstrated the strategy is the same student described previously as Harlow, who did this "think aloud" for a video teleconference (Jones, Palincsar, Ogle, Carr, Walker, & Hixson, 1988). Interestingly, members of the audience commented that we should not have picked such a skilled learner to demonstrate strategies for the average student!! Unfortunately, while Harlow can apply this strategy comfortably to various texts and has commented repeatedly on how easy it is, whether or not he actually uses this strategy will depend on the tests he is given. If he continues to be tested only for recall of isolated facts, he probably will not use the strategy. It will also depend on whether his teachers encourage him to use it or not--which leads to the question of defining roles for effective teaching.

Effective Teaching

Traditional Models Clearly, it is not within the scope of this chapter to review the various models for effective teaching. However, one

widely-used model from that strand of research is illustrative. In 1983, Rosenshine defined the teaching functions from effective classrooms in an award-winning article (see also Rosenshine, 1986). These functions include: review prior learning, present material in small steps with explanations and active student practice after each step, provide for understanding, provide systematic feedback and testing, and so on..

Although all of these functions are important, this model and others like it omit many of the values and strategies associated with expert teaching and cognitive instruction. That is, the functions above do not provide for anchoring the instruction in functional contexts (e.g., Bransford, Sherwood, Vye, & Reiser, 1986; Stitch & Hickey, in press), effectively teaching students to become strategic learners (e.g., Paris, Lipson, & Wixson, 1983), or teaching for conceptual change (Anderson & Smith, 1987).

For example, cognitive psychologists such as Winograd and Hare (in press) define explicit instruction very differently from the notion of direct instruction implied in various effective teaching models. In the latter, direct or explicit instruction means that the teacher presents a skill <u>as an end in itself</u> and explains how to use it with guided practice and comprehension monitoring. In contrast, explicit instruction from the perspective of cognitive psychologists means that the teacher presents the skill <u>as a means to learning the content</u>, models the application of specific thinking strategies, explains why they are important, when to use them, <u>and</u> provides extensive coaching for transfer that goes far beyond guided practice with feedback. In this version, the focus is on teaching

students to be strategic learners, and the instruction is anchored in content instruction.

Another problem with the effective teaching model is that the thrust toward teacher-directed instruction is antithetical to recent literature on collaborative learning (e.g., November 1987 issue of Educational Leadership), that advocates teaching students to become independent learners who are capable of evaluating their own learning (Palincsar, 1987), and indeed encourages reforms for critical literacy. In a biting criticism of the effective teaching model, Wise characterizes it as leading to an "educational world" in which "passive learners" are "fed basic skills in bite-sized chunks to be regurgitated on command before the next scrap of spartan fare can be served," and in which there is a lack of concern for such themes as "individualism, individual freedom, creativity, analytical thinking, and international competitiveness of the 21st century" (in Levine, in press, p. 20x).

Renewed Models of Effective Teaching In a recent analysis of the research on effective teaching, Brophy (1988) argues that since most of the effective teaching research was conducted with students in classrooms using Chapter 1 funding, the model is appropriate for students at risk. He also acknowledges, however, that it needs to be extended to include the teaching of cognitive and metacognitive strategies. While these modifications are vital, and Brophy is to be commended for identifying this need for adaptation, they do not fully address the criticisms above (see Jones & Friedman, 1988).

Moreover, there is a flourishing literature on expert teaching and cognitive instruction as guides for reform. Some of these visions of

teaching and schooling are general but would benefit students at risk especially. Shulman's model (1987), for example, emphasizes comprehension and reasoning, transformation and reflection and provides a useful portrait of an expert teacher. In Reigeluth's (1987) model of schooling, teachers are guides to orchestrate the resources of schools, parents, and community as well as richly-stocked learning labs and cluster schools. I would also refer the reader to the number of articles on collegial learning in the November issue of Educational Leadership (1987), as well as to Collins, Brown, and Newman (in press) for a discussion of the principles of instruction involved in the most successful instructional interventions from cognitive psychology.

Other principles of learning and instruction from cognitive psychology address students at risk specifically. Jenkins, Pious, and Peterson (in press) have examined effective and ineffective instruction for learning-disabled students and students in different categories of the educable mentally retarded. They argue that the most successful instruction in these categories is more similar than different and questions the value of separate instruction.

Additionally, Brown, Palincsar, and Purcell (1986) have an excellent article entitled, "Poor Readers: Teach, Don't Label" in which they argue that poor readers have become poor readers largely by being successful in the substandard fare of basic skills instruction offered to them in most schools. They argue for integrating instruction for students at risk into the regular classroom, provided that it is academically rich and that the teacher provides effective cognitive instruction. Reciprocal teaching is an example of a cognitive instruction developed by Palincsar and Brown

(1985) for low-achieving students. This strategy teaches students four strategies--self-questioning, clarifying, summarizing, and prediction--in the context of a dialogue between the teacher and students in which the teacher gradually transfers responsibility for learning to the students. Other examples of cognitive instruction appropriate for students at risk may be found in works related to the concept of strategic teaching (see Jones, Palincsar, Ogle, & Carr, 1987; Jones, Tinzmann, Friedman, & Walker, 1987; Palincsar, Ogle, Jones, & Carr, 1986).

Models of reform for students at risk should take into consideration the differences in models from expert teaching and cognitive instruction, as distinct from traditional models of effective teaching. However, it is hoped that future models of effective teaching will incorporate research from expert teaching and cognitive instruction more fully so that effective teaching in the future will be closer to the meaning of expert teaching.

Instructional Leadership and Effective Schools

Traditional Visions The May 1988 issue of Education and Urban Society focuses on the reform theme "Rethinking School Leadership." Several articles feature analyses of instructional leadership. To my dismay, all of them drew their definitions and frame of reference from the literature on leadership, school culture and organization, and the sociology of the classroom. Certainly all of these topics are important for effective school functioning. However, not one of the authors typically writes about curriculum and instruction, and in the entire issue, there were almost no references to research on expert teaching, staff development, curriculum and instruction, or instruction in any of the content areas! This tendency to define instructional leadership exclusively in terms of leadership

rather than instruction is not limited to this one publication; rather, it runs throughout the literature on instructional leadership.

There is an equivalent lack of focus on curriculum and instruction in the literature of effective schools. In general, this literature still focuses largely on strong leadership, high expectations for students, accountability for teachers, monitoring of student progress, teaching of skills to all students, and clarity of curriculum objectives. All of these factors are indeed vital to establishing an effective school, to be sure. Nevertheless, it is questionable if principals, superintendents, and other instructional leaders can make appropriate decisions about curriculum, instruction, and grouping when so much of the literature they read does not address these problems directly and in-depth.

Renewed Visions Happily, some effective school researchers do focus on changes in curriculum and instruction needed for students at risk. Pink and Liebert (1986), for example, discuss the inadequacies of school leadership for instruction, the inadequacies of basals in general, and instruction for students at risk, as well as other barriers to effective instruction. Among other things, they recommend: (1) developing district reading objectives based on student needs and analysis of student failure, rather than the content of the basals; (2) aligning the basal text to these objectives, (3) extending reading instruction for low-achieving students to focus on reading for meaning and reading to learn instead of learning isolated subskills, and (4) providing staff development for teachers and building leadership that focuses on issues of curriculum and instruction.

Stedman (1988) argues that the list of correlates for effective schools should be amended to provide: (1) academically rich programs that

stress cognitive development, not just basic skills; (2) attention to goals involving cultural pluralism and multi-cultural education; (3) cooperation between educators and parents; and (4) emphasis on solving students' personal problems and developing their social skills.

Levine and his colleagues (Levine, this volume, in press; Levine & Cooper, in press) have excellent discussions relating explicit comprehension instruction, strategic teaching, and the characteristics of effective comprehension instruction for low-achieving students to the effective schools movement and the process of school change. They also discuss the need for better models of teacher education as vital links in the change process. Clearly, we must apply all that we know about learning and teaching to improve models of teacher education.

Finally, Sizer (in Brandt, 1988) discusses what is probably one of the most serious problems of curriculum and instruction for all students, but especially low-achieving students: the sheer amount of information that students are expected to learn (Peterson, 1987). It is outrageous and highly destructive to the learning process for students to have textbooks with 500-700 pages of facts and details with no guidelines as to how to select, sequence, prioritize; with few summaries, questions, or highlights of key information; and with little emphasis on strategies to help students understand key concepts and applications of what they read. Sizer argues that it is vital in this new wave of reform to establish what is essential to teach and for what purposes, and instructional leaders must be committed to implementing such reforms.

Changes in Who Teaches Thinking

Who teaches thinking? The answer to this question determines to a

great extent how thinking will be taught. If it is taught in a skills course, objectives for skills and strategies will drive the sequencing of instruction. If it is taught in the context of a content course, content objectives will drive the sequencing of instruction. There is considerable debate as to which context is more important for teaching students at risk. On the one hand, Feuerstein and his colleagues (Feuerstein, et al., 1985) argue that low achieving students may experience cognitive overload if they must learn both content and skills simultaneously. Accordingly, they have developed Instrumental Enrichment as an adjunct program, using geometric shapes and pictures that are content free. Most other adjunct programs for teaching thinking, however, use a combination of prose and visual formats. On the other hand, others argue that instruction should be content driven because a substantial part of skills and strategies is content specific and because it typically does not transfer to other areas easily (Resnick, 1987).

In a sense, both arguments are true. Thus, the position taken here is that content-driven skills instruction, in which skills are learned as a means to learning the content or solving problems, is generally preferable, unless students are having great difficulty with the content. In this event, additional strategy instruction might be very helpful, provided that transfer is built into the instruction and provided that the substance of the adjunct program is well-coordinated with the content courses.

What Skills and Strategies Are Taught

To some extent this issue has already been discussed. However, the importance of moving from "LOTS" (low-order thinking skills) to "HOTS" (higher-order thinking skills) for students at risk cannot be over-

emphasized. We can no longer continue to assign high-achieving students to a HOTS curriculum and low-achieving students to a LOTS curriculum on grounds of equity or quality of instruction. All too often, teaching basic skills means teaching low-achieving students many fragmented skills in contexts that are boring and demoralizing, while high-achieving students in the next room are enjoying a challenging curriculum and sustained instruction focusing on essential skills for critical thinking and problem solving. To put it simply, low-achieving students are unlikely to become productive citizens if they are never given the same opportunities to participate that high-achieving students have.

One has to be careful as to what skills are taught, however. According to Feuerstein and his colleagues (in press), many of the programs for higher order thinking are not appropriate for low-achieving students because low-achieving students may need prerequisite instruction. At the same time, there seem to be some core thinking skills that are research based and apply across a variety of content areas, although there may be varying definitions as to what these would be. For example, Marzano and his colleagues (1988) have identified 21 core skills that would be appropriate for schools in teaching essential skills, rather than a hierarchy of skills and subskills (cf., Jones, Tinzmann, Friedman, & Walker, 1987). But there may be considerable variation in defining such skills and in implementing them systematically in the curriculum.

A final issue in considering what is taught is the notion that while some skills such as mathematics are clearly hierarchical in nature, there is little evidence to suggest that younger students and low achieving students must learn low order skills before learning higher order ones in

the language arts. There is ample evidence, for instance, that primary students can learn to summarize, clarify, question themselves, and regulate their learning processes in important ways (e.g., Palincsar & Brown, 1985). This is not to say that it is easy to teach them; to the contrary, as stated above, they need sustained instruction. Rather, the intent here is to challenge the widespread practice of teaching skills in each course of study according to a lock-step sequence based on a taxonomy, regardless of the context.

In closing, it is important to emphasize again that there is substantial funding available for schooling from public resources, private foundations, and businesses, and these monies are likely to increase in future years. The budget for Chapter 1 is now $3.9 billion, the federal government's largest investment in education, and there is language in this budget to apply it to alternative curricula, schoolwide instructional programs, and better coordination of Chapter 1 programs with the regular classroom. Moreover, many of the funds from businesses, private foundations, and states allow for coordinating and integrating many support services to schools to address the social, physical, and economic needs of students at risk. If ever there was a time to experiment, to enact one's hope for future generations, to be pioneers and models for years to come, it is now.

Notes

Note 1: See descriptions of specific school projects throughout the Carnegie Report. See also specific school reports such as Dayton Public Schools (1988), which will establish an alternative school and a middle college arrangement for over-age high school students, and Cincinnati Public Schools (1988), which will begin an alterative schools for potential dropouts with highly innovative, theme-based curricula for the ninth and tenth grades. For additional summaries and descriptions of innovative dropout prevention programs, see Fennimore (in press) and the Urban Superintendents Network report (1987). For national networks and models for restructuring schools, see the February issue of Educational Leadership and the National Educational Association's Visions of School Renewal, which contains numerous principles for change as well as several samples of flexible scheduling.

Note 2: In reading, see Anderson, Hiebert, Scott and Wilkinson (1985); Jones, Palincsar, Ogle, and Carr (1987); Tierney, Readence, and Dishner (1988); Paris, Lipson, and Wixson (1983); Pearson and Johnson (1978). In mathematics, see Linquist (in press); Schoenfeld (1985, 1988); Silver (1985); and the Spring 1988 issue of Educational Psychologist. In science, see Anderson and Smith (1987); Carey (1986).

References

Allington, R.L. (in press). How policy and regulation influence instruction for at-risk learners; Why poor readers rarely comprehend well and probably never will. In B.F. Jones & L. Idol (Eds.), Dimensions of thinking and cognitive instruction. Hillsdale, NJ: Erlbaum.

Alvermann, D.E. (in press). Strategic teaching in social studies. In B.F. Jones, A.S. Palincsar, D.S. Ogle, & E.G. Carr (Eds.), Strategic teaching and learning: Cognitive instruction in the content areas. Alexandria, VA: Association for Supervision and Curriculum Development.

Anderson, C.W., & Smith, L. (1987). Teaching science. In V. Koehler (Ed.), The educator's handbook: A research perspective (pp. 84-110). New York: Longman.

Anderson, R.C., Hiebert, E.H., Scott, J.A., & Wilkinson, I.A.G. (1985). Becoming a nation of readers: The report of the Commission on Reading. Urbana, IL: University of Illinois.

Arter, J.A., & Salmon, J.R. (1987). Assessing higher order thinking skills: A consumer's Guide (Tech. Rep.). Portland, OR: Northwest Regional Educational Laboratory.

Ascher, C. (1987). Chapter 1 programs: New guides from the research. ERIC Clearinghouse on Urban Education. New York: Columbia University, Teachers College.

Brandt, R. (1987, Febuary). On changing secondary schools: A conversation with Ted Sizer. Educational Leadership, 45(3), 30-36.

Bransford, J.D., Sherwood, R., Vye, N., & Rieser, J. (1986) Teaching thinking and problem solving. American Psychologist, 41, 1078-1089.

Brophy, J. (1988). Research linking teacher behavior to student achievement: Potential implications for instruction of Chapter 1 students. Educational Psychologist, 23, 235-286.

Brown, A.L., Palincsar, A.S., & Purcell, L. (1986). Poor readers: Teach, don't label. In U. Neisser (Ed.), The academic performance of minority children: New perspectives (pp. 105-143). Hillsdale, NJ: Erlbaum.

Calfee, R. (1988). Schools for the year 2000: A proposal and planning document for fundamental change in American schools. Unpublished document available from the author at Stanford University.

Carey, S. (1986). Cognitive science and science education. American Psychologist, 41, 1123-1130.

Carnegie Foundation Special Report. (1988). An imperiled generation: Saving urban schools. Princeton, NJ: The Carnegie Foundation for the Advancement of Teaching.

Chamot, A.U., & O'Malley, J.M. (1987). The cognitive academic language learning approach: A bridge to the mainstream. TESOL Quarterly, 21, 227-249.

Cincinnati Public Schools. (1988, April). Cincinnati high school of excellence. Cincinnati, OH: Cincinnati Public Schools.

Cohen, E. (1986). Designing groupwork: Strategies for the heterogeneous classroom. New York: Teachers College Press.

Collins, A.M., Brown, J.S., & Newman, S. (in press). Cognitive apprenticeship: Teaching students the craft of reading, writing, and mathematics. In L.B. Resnick (Ed.), Knowing and learning: Issues in a cognitive science of instruction. Hillsdale, NJ: Erlbaum.

Cooper, E.J. (in press). Toward a mainstream of instruction for American schools. Journal of Negro Education.

Corno, L., & Snow, R.E. (1986). Adapting teaching to individual differences among learners. In M.C. Wittrock (Ed.), Handbook of research on teaching, (3rd ed., pp. 605-629). New York: Macmillan.

Corporate/Community Schools of America. (1988). Corporate/Community Schools of America: Progress report. Unpublished manuscript available from Primus Mootry, Better Boys Foundation, 407 South Dearborn, Suite 600, Chicago, IL 60605 (312/427-0468).

Council of Chief State School Officers. (1987). Assuring educational success for students at risk. Paper published by the Council of Chief State School Officers, Washington, DC.

Dayton Public Schools. (1988). University Prep Program (Prep). Dayton, OH: Dayton Public Schools.

Education and Urban Society. (1988, May). Special issue: Rethinking instructional leadership.

Education Daily. (1988, June). Special Supplement: Education programs reauthorized through 1993.

Educational Leadership. (1987, November). Special issue: Collegial learning.

Educational Psychologist. (1988, Spring). Special issue: Learning mathematics from instruction.

Fennimore, T. (in press). A guide for dropout prevention: Creating an integrated learning environment in secondary schools. Columbus, OH: National Center for Research on Vocational Education.

Feuerstein, R., Jensen, M.R., Hoffman, M.B., & Rand, Y. (1985). Instrumental enrichment, An intervention program for structural cognitive modifiability: Theory and practice. In J.W. Segal, S.F. Chipman & R. Glaser (Eds.), Thinking and learning skills, Vol. 1: Relating instruction to research (pp. 43-82). Hillsdale, N.J. Erlbaum.

Feuerstein, R., Rand, Y., Hoffman, M.B., Epozi, M., & Kaiwel, S. (in press). Intervention programs for the retarded performer: Goals, means, and expected outcomes. In B.F. Jones & L. Idol (Eds.), Dimensions of thinking and cognitive instruction. Hillsdale, N.J., Erlbaum.

Gartner, A., & Lipsky, D.K. (1987). Beyond special education: Toward a quality system for all students. Harvard Educational Review, 57, 367-395.

Good, T.L., & Marshall, S. (1984). Do students learn more in heterogeneous or homogeneous groups? In P.L. Peterson, L.C. Wilkinson, & M. Hallinan (Eds.), The social context of intuition: Group organization and processes. New York: Academic Press.

Jenkins, J., Pious, C.G., Peterson, D.L. (in press). Categorical programs for remedial and handicapped students: Issues of validity. Exceptional Children.

Jones, B.F. (in press). Text learning strategy instruction: Guidelines from theory to practice. In E. Goetz, P. Alexander, & C.E. Weinstein (Eds.), Learning and study strategy research: Issues in assessment, instruction and evaluation. New York: Academic Press.

Jones, B.F., & Friedman, L.B. (1988) Active instruction for students: Remarks on merging process-outcome and cognitive perspectives. Educational Pscyhologist, 23, 299-308.

Jones, B.F., Palincsar, A.S., Ogle, D.S., & Carr, E.G. (1987). Strategic teaching: Cognitive instruction in the content areas. Alexandria, VA: Association for Supervision and Curriculum Development.

Jones, B.F., Palincsar, A.S., Ogle, D.S., Carr, E.G., Walker, B.J., & Hixson, J. (Producers) (1988). Strategies for teaching reading as thinking. (A video teleconference.) Detroit, MI: The Public Broadcasting Service and the North Central Regional Educational Laboratory.

Jones, B.F., Pierce, J., & Hunter, B. (in press). Using graphic representations for analysis and problem solving. Educational Leadership.

Jones, B.F., Tinzmann, M., Friedman, L.B., & Walker, B.J. (1987). Teaching thinking skills: English/Language Arts. Washington, DC: National Education Association.

Lamar, J.V. (1988, May 9). "Kids who sell crack." Time, 20-33.

Levin, H.M. (1987a, March). Accelerated schools for disadvantaged students. Educational Leadership, 44(6),19-21.

Levin, H.M. (1987b, June). New schools for the disadvantaged. Paper prepared for the Mid-Continent Regional Educational Laboratory, Denver, CO.

Levin, J.R. (1976). What have we learned about maximizing what children learn? In J.R. Levin & V.L. Allen (Eds.), Cognitive learning in children: Theories and strategies (pp. 105-134). New York: Academic Press.

Levine, D.U. (in press). School effectiveness and reform. In A.O. Ornstein & D.U. Levine (Eds.), Introduction to the frontiers of education. Boston: Houghton Mifflin.

Levine, D.U., & Cooper, E.J. (in press). The change process and its implications in teaching thinking. In B.F. Jones & L. Idol (Eds.), Dimensions of thinking and cognitive instruction. Hillsdale, NJ: Erlbaum.

Linquist, M. (in press). Strategic teaching and learning in mathematics. In B.F. Jones, A.S. Palincsar, D.S. Ogle, & E.G. Carr (Eds.), Strategic teaching and learning: Cognitive instruction in the content areas. Alexandria, VA: Association for Supervision and Curriculum Development.

Marzano, R.J., Brandt, R., Hughes, C., Jones, B.F., Presseisen, B., Rankin, S., & Suhor, C. (in press). Dimensions of thinking: A framework for curriculum and instruction. Alexandria, VA: Association for Supervision and Curriculum Development.

National Coalition of Advocates for Students. (1985). Barriers to excellence: Our children at risk. Boston, MA: National Coalition of Advocates for Students.

National Diffusion Network Newsletter. (1988, February). Reading recovery, No. 2.

National Education Association (1987). Visions of school renewal. Washington, DC: National Education Association.

Neisser, U. (Ed.) (1986). The academic performance of minority children: New perspectives. Hillsdale, NJ: Erlbaum.

Newsweek (1988, March 7). "Black and white: How integrated is America?" pp. 18-43.

Oakes, J. (1985). Keeping track: How schools structure inequality. New Haven, CN: Yale University Press.

Palincsar, A.S. (1987, April). Collaborating for collaborative learning of text comprehension. Paper presented at the annual meeting of the American Educational Research Association, Washington, DC.

Palincsar, A.S., & Brown, A.L. (1985). Reciprocal teaching: Activities to promote "reading with your mind." In T.L. Harris & E.J. Cooper (Eds.), Reading, thinking, and concept development: Strategies for the classroom (pp. 147-160). New York: The College Board.

Palincsar, A.S., Ogle, D.C., Jones, B.F., & Carr, E.D. (1986). Teaching reading as thinking (Facilitators manual). Alexandria, VA: Association for Supervision and Curriculum Development.

Papajohn, G., & Kaplan, J. (1988, June 5). The many faces of Laurie Dann. Chicago Tribune, Section C, pp. 1, 16.

Paris, S.G., Lipson, M.Y., & Wixson, K. (1983) Becoming a strategic reader. Contemporary Educational Psychology, 8, 293-316.

Parnell, D. (1986). The neglected majority. Washington, DC: Community College Press.

Pearson, P.D., & Johnson, D.C. (1978). Teaching reading comprehension. New York: Holt, Rinehart, & Winston.

Peterson, P. (1987). Selecting students and services for compensatory education: Lessons from aptitude-treatment interaction research. In B.I. Williams, P.A. Richmond, & B.J. Mason (Eds.), Designs for compensatory education: Conference proceedings and papers. Washington, DC: Research and Evaluation Associates.

Pink, W.T., & Liebert, R.E. (1986). Reading instruction in elementary schools: A proposal for reform. Elementary School Journal, 87, 51-67.

Pinnell, G., Lyons, C., Young, P., & Deford, D. (1987). The reading recovery project in Columbus, Ohio: Volume VI Year 2 1986-87 (Technical Report). Columbus: The Ohio State University.

Reigeluth, C.M. (1987). Search for meaningful reform: A third wave educational system. Journal of Instructional Development, 10, 3-14.

Resnick, L.B. (1987). Education and learning to think. Washington, DC: National Academy Press.

Rohwer, W.D., Jr. (1971). Prime time for education: Early childhood or adolescence? Harvard Educational Review, 41, 316-341.

Rosenshine, B. (1983). Teaching functions in instructional programs. The Elementary School Journal, 83, 335-351.

Rosenshine, B. (1986). Synthesis of research on explicit teaching. Educational Leadership, 43, 60-69.

Salmons, S. (1988, April 10). The tracking controversy. New York Times Education Life, p. 56ff.

Schoenfeld, A.H. (1985). Mathematical problem solving. New York: Academic Press.

Schoenfeld, A.H. (Ed.) (1988). Cognitive science and mathematics education. Hillsdale, NJ: Erlbaum.

Shulman, L.S. (1987). Knowledge and teaching: Foundations of the new reform. Harvard Educational Review, 57, 1-2.

Silver, E.A. (Ed.) (1985). Teaching and learning mathematical problem solving. Hillsdale, NJ: Erlbaum.

Singer, H., & Donlan, D. (1982). Active comprehension: Problem-solving schema with question generation for comprehension of complex short stories. Reading Research Quarterly, 17, 166-186.

Slavin, R.E. (1986, June). Ability grouping and student achievement in elementary schools: A best-evidence synthesis (Report No. 1). Baltimore, MD: The Johns Hopkins University, Center for Research on Elementary and Middle Schools.

Slavin, R.E. (1987, November). Cooperative learning and the cooperative school. Educational Leadership, 45(3), 7-13.

Stedman, L. (1988, February). The effective schools formula still needs changing. Phi Delta Kappan, 69, 439-442.

Stiggins, R. L., Rubel, E., & Quellmalz, E. (1986). Measuring thinking skills in the classrom. Washington, D.C. National Education Association.

Stitch, T.G., & Hickey, D.T. (in press). Functional context theory, literacy, and electronics training. In R. Dillon & J. Pellegrino (Eds.), Instruction: Theoretical and applied perspectives. New York: Praeger Press.

Tierney, R.J., Readence, J.E., & Dishner, E.K. (1988). Reading strategies and practices - a compendium (2nd ed.). Boston: Allyn Bacon.

Urban Superintendents Network. (1987). Dealing with dropouts. Washington, DC: Office of Educational Research and Improvement, U.S. Department of Education.

Weinstein, C.E., & Mayer, R.E. (1986). The teaching of learning strategies. In M.C. Wittrock (Ed.), Handbook of research on teaching (3rd ed., pp. 315-327). New York: Macmillan.

Weinstein, C.E., & Underwood, V.L. (1985). Learning strategies: The how of learning. In J. Segal, S. Chipman, & R. Glaser (Eds.), Relating instruction to research (pp. 241-258). Hillsdale, NJ: Erlbaum.

Winograd, P.N., & Hare, V.C. (in press). Direct instruction of reading comprehenion strategies: The nature of teacher explanation. In E. Goetz, P. Alexander, & C. Weinstein (Eds.), Learning and study strategy research: Issues in assessment, instruction, and evaluation. New York: Academic Press.